

DIVISION OF INTERDISCIPLINARY TRAINING

National Institute of Biomedical Imaging and Bioengineering

National Institutes of Health



NIBIB Contact

Dr. Richard Baird
Director, Division of
Interdisciplinary Training
Main: 301-451-4792
bairdri@mail.nih.gov

www.nibib.nih.gov



Introduction

The mission of the National Institute of Biomedical Imaging and Bioengineering (NIBIB) is to improve human health by leading the development and accelerating the application of biomedical technologies. The NIBIB supports research and training in biomedical imaging and bioengineering and encourages the integration of engineering with the biological and physical sciences to advance human health by improving the quality of life and reducing the burden of disease.

To attract and train bright and talented researchers, the NIBIB provides support for a broad range of programs. These include disciplinary programs to support areas relevant to the NIBIB, multidisciplinary programs to promote the clinical translation of emerging technology, and interdisciplinary programs to train a new cadre of researchers working at the intersection of the biological and physical sciences. These programs are designed to fill critical gaps in the career continuum, increase the number of clinician-scientists, and enhance the participation of underrepresented populations in biomedical imaging and bioengineering.

Undergraduate Training

- **Biomedical Engineering Summer Internship Program (BESIP)** provides undergraduate biomedical engineering students the opportunity to participate in cutting-edge biomedical research projects at NIH intramural laboratories.
- **Team-Based Design in Biomedical Engineering (R25)** awards provide support for new or existing design courses in which undergraduate students work in teams on open-ended biomedical design projects.
- **Design by Biomedical Undergraduate Teams (DEBUT) Challenge** awards \$30,000 in prizes to teams of undergraduate students working on projects offering innovative solutions to unmet clinical and health problems in:
 - Diagnostic Devices/Methods
 - Therapeutic Devices/Methods
 - Technologies to aid Underserved Populations and Individuals with Disabilities
- **Expanding Diversity in Engineering and the Physical Sciences** supports academic, financial, mentoring, research, and social support programs that attract and retain underrepresented undergraduates in STEM fields.

Ruth L. Kirschstein National Research Service Award (NRSA)

NRSA awards support predoctoral students working toward research degrees and postdoctoral fellows getting research experience in a mentor's laboratory.

- **T32 – Institutional Research Training Awards** support focused predoctoral and postdoctoral research training programs in biomedical engineering for graduate students, postdoctoral fellows, and radiology residents, as well as broad-based multidisciplinary and interdisciplinary

research training integrating engineering with the biological, computational, and physical sciences.

- **T35 – Short-Term Institutional Research Training Awards** support short-term clinical or translational research experiences for biomedical engineering graduate students.
- **F31 – Individual Predoctoral Fellowships to Promote Diversity in Health-Related Research** provide up to two years of doctoral training support for individuals from underrepresented racial and ethnic groups, those with disabilities, and individuals from disadvantaged backgrounds.
- **F32 – Individual Postdoctoral Fellowships** provide up to two years of postdoctoral training support for qualified individuals who have received the Ph.D. (or equivalent) degree.

Career Development Awards

Career development awards provide salary and laboratory support for postdoctoral fellows transitioning to faculty positions and junior faculty who are changing research fields or need protected research time during critical periods of their careers.

Transitional Career Development

- **Pathway to Independence (K99/R00) Awards** provide funding for both mentored training (K99) and independent research (R00), shortening the time between postdoctoral training and research independence.

Basic Career Development

- **K01 – Mentored Research Scientist Development Awards** provide basic researchers who wish to obtain experience in a different area from their doctoral or postdoctoral research focus with up to five years of mentored research support as they transition to research independence.

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- **K25 – Mentored Quantitative Research Career Development Awards** provide up to five years of mentored research support to individuals with quantitative backgrounds but little experience in biology or medicine who wish to refocus their research on biomedical research.

Clinical Career Development

- **K08 – Mentored Clinical Scientist Development Awards** provide clinician scientists with up to five years of mentored research support as they transition to research independence.
- **K23 – Mentored Patient-Oriented Research Career Development Awards** provide clinically trained professionals with up to five years of mentored patient-oriented research support as they transition to research independence.

Conference/Meeting Awards (R13)

R13 Awards help support national conferences and meetings that significantly impact the scientific fields relevant to the NIBIB mission. Priority is given to applications that encourage the participation of students, fellows, and junior faculty, especially members of underrepresented groups.

Academic Research Enhancement Awards (AREA – R15)

AREA Awards provide up to three years of support for biomedical research conducted by faculty and students at academic institutions that have not been major recipients of NIH research awards. Institutional eligibility can be verified at grants.nih.gov/grants/funding/area.htm.

Research Education Programs (R25)

- **Team-Based Design in Biomedical Engineering** – see Undergraduate Training
- **NIBIB Summer Research Experience Program** supports summer research experiences that enhance the communication and research skills of high school science teachers and community college STEM faculty.
- **NIBIB Research Education Programs for Residents and Clinical Fellows** provide one or two years of salary and laboratory support for residents from radiology and other NIBIB-relevant residency programs.

Research Supplements

- **Research Supplements to Promote Diversity in Health-Related Research Awards** support individuals from underrepresented racial and ethnic groups, persons with disabilities, and those from disadvantaged backgrounds.
- **Research Supplements for Career Reentry Awards** enable talented fellows and early-career faculty with high research potential to reenter an active research career after a qualifying interruption for family or other responsibilities.

NIH Blueprint for Neuroscience

The **NIH Blueprint for Neuroscience** supports trans-NIH activities that support research on the nervous system:

- **Enhancing Neuroscience Diversity through Undergraduate Research Education (ENDURE)** supports collaborative neuroscience research partnerships between undergraduate institutions and graduate neuroscience research training programs.
- **Jointly Sponsored Predoctoral Neuroscience Training Awards** support interdisciplinary training in neuroimaging, computational neurobiology, and the neurobiology of disease.

Additional information is at neuroscienceblueprint.nih.gov.

NIH Common Fund (Roadmap)

The **NIH Common Fund** supports trans-NIH activities on New Pathways to Discovery, Re-engineering the Clinical Research Enterprise, and Research Teams of the Future.

- **NIH Director's Early Independence Awards** allow exceptional early-career researchers to omit postdoctoral training and establish independent research programs.
- **NIH Director's New Innovator Awards** support innovative proposals from early-career researchers with the potential for high impact on biomedical research.
- **Interdisciplinary Training Awards** support broad-based interdisciplinary research training programs in basic and clinical research.

Additional information is available at commonfund.nih.gov.

Interagency Training Opportunities

- The **Interfaces Initiative for Interdisciplinary Graduate Research Training**, a partnership between NIBIB and the Howard Hughes Medical Institute (HHMI), supports interdisciplinary research training at the interface between the biological and physical sciences.
- The **NIBIB-NIST Postdoctoral Program** provides two years of research support for co-mentored postdoctoral fellows undergoing research training at the NIH and the National Institute for Standards and Technology (NIST).

NIBIB Contacts

Please contact the following program staff with questions about the above programs. We welcome the opportunity to speak with potential applicants about our training programs.

Richard Baird, Ph.D.
Director, Division of Interdisciplinary Training (DIDT)
301-496-7671
bairdri@mail.nih.gov

Zeynep Erim, Ph.D.
Program Director, DIDT
301-451-4797
erimz@mail.nih.gov

Eugene Lee, B.S.
Biomedical Engineer, DIDT
(301) 496-8543
leeek2@mail.nih.gov